

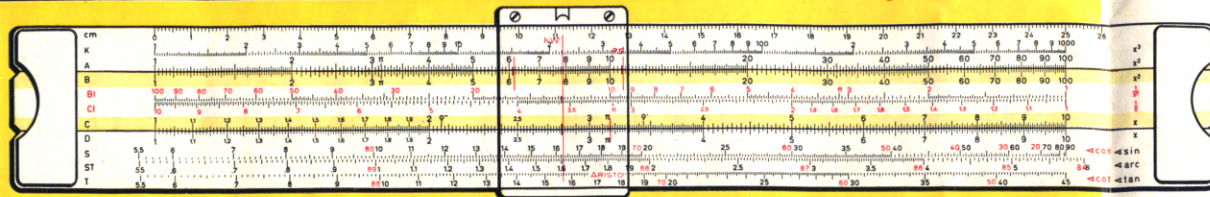


# AIRISTO

for school use

# ARISTO-TRILOG

With folded scales and  
3-section Log Log scale

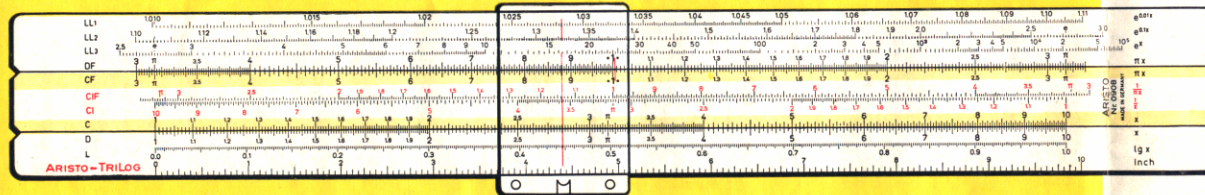


## The new double face slide rule for highest pretensions in school mathematics

Although the ARISTO TriLog is based on the ARISTO Scholar, it goes beyond the purely scholastic field and is a technical slide rule in its own right, designed in the modern double face manner.

In addition to the familiar scale layout of the ARISTO Scholar which has been adopted for the front face, the ARISTO TriLog also has a reciprocal scale of squares which is enjoying an ever growing popularity since we extended the ARISTO Darmstadt by incorporating this scale. The uniform positioning of the D/C/CI and A/B/BI scale groups is a definite advantage because after squaring with BI-scale further calculations can be made quickly. Those who have been used to using mainly the A and B scales for calculating, will find the reciprocal scale BI particularly welcome. With the folded DF/CF/CI and three Log-Log scales this slide rule has more to offer than the Darmstadt system and is almost a match for the ARISTO Studio model.

The ARISTO TriLog can be used for solving the mathematical problems commonly met in schools and colleges. It is also the right slide rule for all professions which previously favoured the Darmstadt system and thus rejected the folded scales. These users will again find their familiar scales on the front face, but over and above this they will find that calculations using the folded scales saves resetting the slide. Furthermore the three wellknown Log-Log scales can be used without reversing the slide.



The cursor fulfills also the necessary requirements of an ARISTO Double Face Slide Rule: co-ordinated cursor hairlines for both sides of the slide rule so that in the course of a calculation one can easily switch from one side to the other, easy removal of the cursor for cleaning without danger of disturbing the hairlines; hairlines for evaluating circular sections, conversion of kW — HP, and a factor 36 mark.

### Scale layout from top to bottom:

#### Front side:

cm	Scale	
K	Scale of Cubes	$x^3$
A	Scale of Squares	$x^2$
B	Scale of Squares	$x^2$
BI	Inverted	
	Scale of Squares	$1/x^2$
CI	Inverted Scale of C	$1/x$
D	Fundamental Scale	$x$
C	Fundamental Scale	$x$
S	Scale of Sines and Cosines	$\angle \sin (\angle \cos)$
ST	Scale of Small Angles	$\angle \text{arc}$
T	Scale of Tangents and Cotangents	$\angle \tan (\angle \cot)$

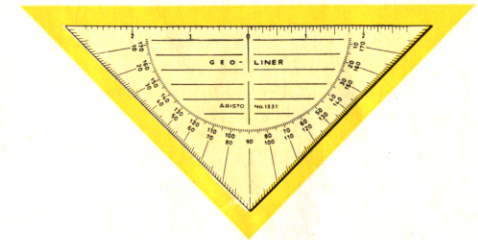
#### Back side:

LL1	Log-Log Scale	range 1.01 to 1.11	$e^{0.01x}$
LL2	Log-Log Scale	range 1.1 to 3.0	$e^{0.1x}$
LL3	Log-Log Scale	range 2.5 to 100,000	$e^x$
DF	Folded Scale		$\pi x$
CF	Folded Scale		$\pi x$
CIF	Inverted Folded Scale		$1/\pi x$
CI	Inverted Scale		$1/x$
C	Fundamental Scale		$x$
D	Fundamental Scale		$x$
L	Mantissa Scale		$\lg x$
	Inch Scale		

0908 ARISTO-TRILOG Length of Scales 10 in. (25 cm) · With case and instructions  
8/150 ARISTO-TRILOG Demonstration Model · Length of scales 5 ft. (150 cm)

Transparent  
Unbreakable  
Dimensionally Stable

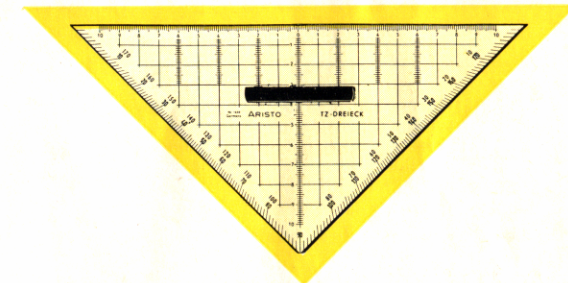
# ARISTO GEO-LINER



A surprisingly practical drawing device of transparent ARISTOPAL for use in geometry classes. Combines the advantages of protractor, scale and drafting triangle. With point 0 of the hypotenuse adjusted to the origin of the given ray the angle  $\alpha$  and the distance  $s$  can be immediately plotted without the need of other implements.

- 1551 Hypotenuse 6 1/2 in. (16 cm) divided from 0 to the left in inches and tenths, to the right in inches and sixteenths. Sides 4 1/2 in. (11.3 cm). Thickness 1 mm.
- 1550 Thickness 1 mm. Hypotenuse 16 cm divided in cm and mm, sides 11.3 mm.
- 1551 W Blackboard Model of 2 mm transparent ARISTOPAL, with grip. Hypotenuse 24 in. (60 cm) divided from 0 to the left in inches and fifths, to the right in inches and quarter inches. Sides 16 1/2 in. (42 cm).
- 1550 W Blackboard Model with handle, transparent 2 mm-ARISTOPAL, hypotenuse 60 cm divided in cm, sides 42 cm.

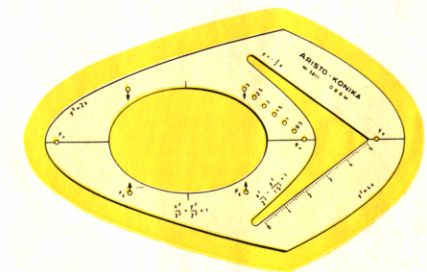
# ARISTO TZ-LINER



An enlarged and more elaborate counterpart of the ARISTO-Geo-Liner of transparent 1.5 mm-ARISTOPAL Hypotenuse 22.5 cm divided in cm and mm, sides 16 cm. Available with or without handle. The provision of a 1 cm-grid net and two mm-graduations serving as perpendicular x- and y-axes enable plottings by rectangular coordinates. A sixcolumn graduation perpendicular to the hypotenuse is convenient for hatchings.

- 1650/1 Without handle.
- 1650/2 With handle.
- 1650 W Blackboard Model with handle, of transparent 2.5 mm-ARISTOPAL. Hypotenuse 80 cm, Sides 56 cm.

# ARISTO-KONIKA



A conic section template of transparent ARISTOPAL, supplementing the ARISTO Geo-Liner. In a well-balanced arrangement it contains one ellipse, one hyperbola and two parabolas, all combined in one simple drafting device. The equations are printed on the template. The foci, axes and asymptotes are clearly marked.

The drawing edges have a set-back of 0.4 mm to make allowance for the thickness of the pencil lead and, hence, ensure curves generated in strict conformity with the equations.

- 5011 Thickness 1 mm, overall length 13.7 cm.
- 5011 W Blackboard Model, with handle, white ARISTOPAL, thickness 3 mm, overall length 78 cm.

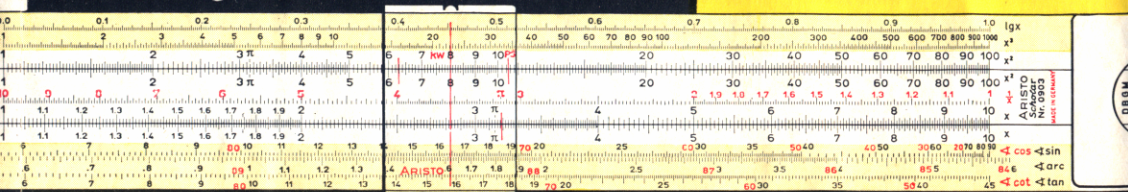
## ARISTO DEMONSTRATION SLIDE RULES

Demonstration Slide Rules have proved to be of great value in class room practice. Owing to their great length the scales are easily legible from all places, even in unusually large rooms. The concentration of all trigonometric scales on the front face saves back-to-front slide reversals, thus avoiding distraction of the pupils' attention during demonstrations.

All ARISTO Demonstration Slide Rules are made of well-seasoned wood and durably varnished. The body panels are adjustable to permit regulating the slide motion. A locking pin holds the slide in place during transportation and prevents the cursor from slipping off. Supplied with special hangers for suspension from wallhook or edge of blackboard.

## ARISTO-SCHOLAR LL

Now with ST scale  
and cursor mark kW-HP



### The "School Darmstadt" for Secondary Schools and Technical Colleges

The ARISTO Scholar LL was developed to provide a serviceable school model slide rule with Log Log scales for solving exponential expressions. Its front face is identical with that of the ARISTO Scholar, hence both models may be jointly used in the same course, enabling the instructor to introduce groups of high-ability students to slide rule computations involving any powers, roots or logarithms.

#### Scale Arrangement, top to bottom:

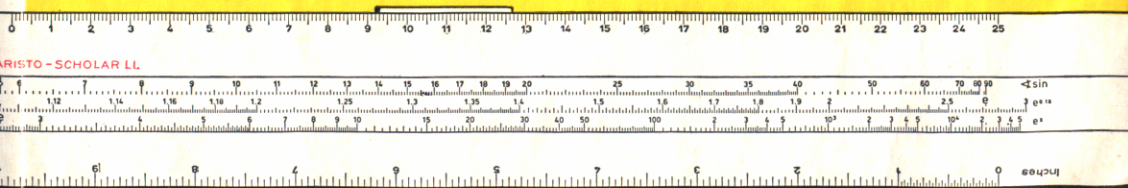
**Front:** Same as that of the ARISTO Scholar 0903

**Back:** Millimeter Scale for measuring and drafting

- S  $\star \sin$  A second movable sine scale for the simplified solution of problems in spherical trigonometry
- LL 2  $e^{0.1x}$  Log Log Scale in two sections ranging from 1.1 through
- LL 3  $e^x$  50,000 for power, roots and logarithmic problems
- Inch Scale for measuring and drafting

**0903 LL ARISTO-SCHOLAR LL** 10" (25 cm) Graduation · With Case and Instructions

**3 LL/150 ARISTO-SCHOLAR LL** Demonstration Model of Wood · 60" (150 cm) Graduation



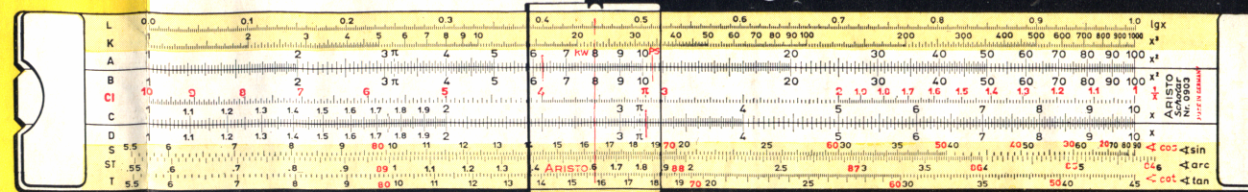
Dr. Richard Stender

### THE MODERN SLIDE RULE

A Textbook for Schools and Colleges and a Self-instructing Manual for the Professional User

With Single or  
Double Face Cursor

## ARISTO-SCHOLAR VS



### The Double Face Slide Rule for Secondary Schools and Technical Colleges

The ARISTO Scholar VS is the first school slide rule to introduce the advantages of the folded scales into school mathematics. One face of the rule is reserved for these scales and, of course, a duplicate set of C and D scales. Once the user has realized the efficiency of this combination and convinced himself that all solutions really are obtained without the troublesome end-for-end substitution of indexes, he will use this side whenever possible.

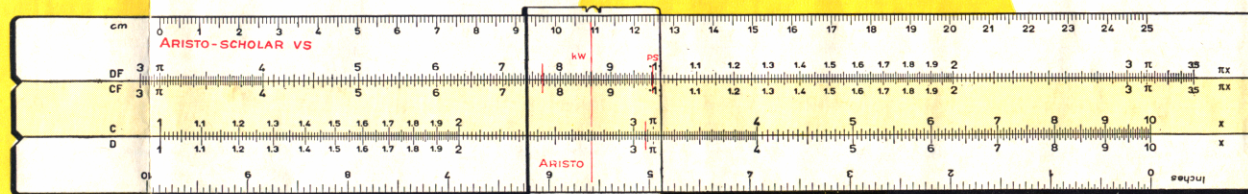
Only one slide adjustment is required to solve any problem in multiplication, proportion and compiling tables, by far the most frequent of all everyday mathematical operations. The yellow coloration of the slide facilitates setting and reading. The omission of all other scales from this face of the rule accentuates the intercontinuous relation between C/D and CF/DF. This will be found particularly helpful in elementary instruction, as the example with simple numbers in the margin demonstrates.

The front face of the ARISTO Scholar VS has the same scales as the time-tested ARISTO Scholar and ARISTO Scholar LL.

DF	12	18	21	27	$\pi x$
CF	4	6	7	9	$\pi x$
C	1	2	3	4	x
D	3	6	9	12	x

Only one slide setting to solve:

- 1 Multiplication:  $3 \times 3 = 9$ ,  $3 \times 6 = 18$ , etc.
- 2 Tabulation:  $y = 3x$
- 3 Proportions:  $\frac{1}{3} = \frac{2}{6} = \frac{3}{9} = \frac{4}{12} = \dots$



#### Scale Arrangement, top to bottom:

**Front:** Same as that of the ARISTO Scholar 0903

**Back:** Millimeter Scale for measuring and drafting

- DF  $\pi x$  }  $\pi$ -displaced Folded Scales
- CF  $\pi x$  } on body and slide
- C x } Fundamental Scales
- D x } on body and slide

Inch Scale for measuring and drafting

The two pairs supplement each other in multiplication, proportion and tabulation and exclude "resetting the slide".

The ARISTO Scholar VS can be ordered with a one or a two-window cursor. The new double face cursor L 903 VS-2 has hairlines on both sides which interact with one another and allow switches back and forth between scales on the two sides of the rule. The hairlines on the front face of the ARISTO Double Face Cursor are the same as those of the single face model. On the rear face there is a short line for the factor 36 in addition to the long centre hair. The cursor is easily detached and replaced for cleaning without detriment to its perfect adjustment.

#### With Single Face Cursor

**0903 VS ARISTO-SCHOLAR VS** 10" (25 cm) Graduation · With Case and Instructions

#### With Double Face Cursor

**0903 VS-2 ARISTO-SCHOLAR VS-2** 10" (25 cm) Graduation · With Case and Instructions

**3 VS/150 ARISTO-SCHOLAR VS** Demonstration Model of Wood · 60" (150 cm) Graduation

# ARISTO STUDENTS' SLIDE RULES

The ARISTO Scholar series of slide rules are products of the ARISTO Works, specialists in slide rule manufacture for more than 80 years, designed specifically for school use in consultation with the teaching staff of many institutes. In consideration of their special purpose all scales of primary importance to the beginner occupy one face of these ARISTO school models, for simplicity and easy factual understanding during systematic slide rule courses. The models detailed in this list offer the student and beginner a choice of quality slide rules that will also come up to the requirements of its owner's future professional work.

The ARISTO Scholar student's slide rule has now a firmly established reputation for the efficiency and practicality of its scale system. In the upper grades of secondary schools and in vocational training institutes slide rule computation saves valuable time and effort that can be used to better advantage in other branches of study. To the pupil the slide rule will become an indispensable tool which he will never wish to do without in his later business- or engineering career.

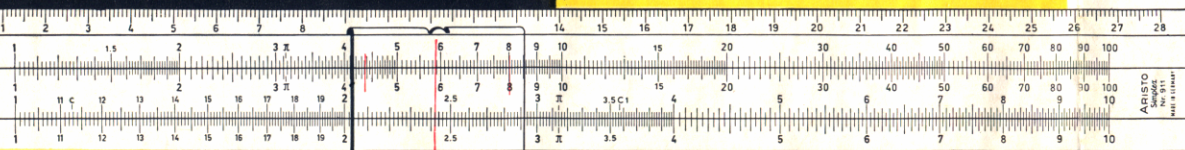
## These are the special advantages to the ARISTO-Scholar

- 1 Inclusion of the trigonometric scale ST for direct reading of  $\sin \alpha$  and  $\tan \alpha$  of angles  $0.55^\circ < \alpha < 6^\circ$  and the cofunctions of angles  $84^\circ < \alpha < 89.45^\circ$  set on the D scale.
- 2 This new ST scale intervenes between the formerly adjoining S and T scales, thereby excluding any risk of straying on to the wrong scale, particularly in the leftward regions of S and T.
- 3 The cursor now has the often demanded hairline for direct conversions between kW and HP.
- 4 The rear face of the ARISTO Scholar VS is reserved for an extremely simple scale combination, particularly convenient in elementary instruction. Moreover, the folded scales, so far the outstanding feature of all ARISTO Double Face Slide Rules, is a novelty in a student's slide rule.
- 5 The ARISTO Scholar VS is now available with a new double face cursor which can be detached for cleaning without disturbing its adjustment.

All ARISTO Student's Slide Rules are made of ARISTOPAL and have the following characteristics:

- ▶ Exceptionally clear and well arranged system of scales.
- ▶ Resistance to extremes of climate, water, atmospheric moisture, acids and alkalies.
- ▶ Proof against warping, shrinkage and expansion, thus insuring silky, touch-responsive slide control. Neat, sharply defined and non-fading graduations of lifelong precision.
- ▶ Non-inflammable.
- ▶ Highly elastic, hence virtually unbreakable.

## ARISTO-SIMPLEX



### A Simple School Slide Rule for Secondary Schools, High Schools and Vocational Courses

Designed at the suggestion of various instructors, the ARISTO Simplex contains only the essential scales C and D and the square and square root scales A and B for teaching the rudiments of slide rule computation.

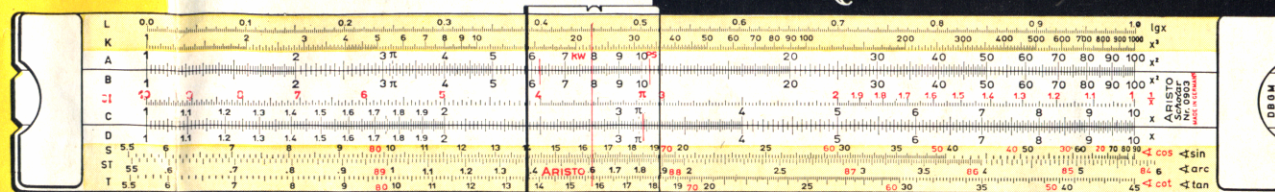
The ARISTO Simplex is recommended wherever reciprocal and trigonometric scales can be dispensed with. For more advanced courses in mathematics and physics the ARISTO Scholar, ARISTO Scholar LL or ARISTO Scholar VS are the proper types.

**911 ARISTO-SIMPLEX** 10" (25 cm) Graduation · With Case and Instructions

**11/150 ARISTO-SIMPLEX** Demonstration Model of Wood · 60" (150 cm) Graduation

Now with ST scale and cursor mark kW-HP

# ARISTO-SCHOLAR



## The "School Rietz" for Secondary Schools and Technical Colleges

The ARISTO Scholar combines all the scales of the traditional "Rietz" system in well ordered arrangement on one face of the rule. The inclusion of the ST scale is a novelty which meets the often expressed demand for a scale for small angles. The most important advantage of this model over other school slide rules is the combination of all trigonometric scales on the same face of the rule. It does away with slide reversals or turning the rule over bodily. Furthermore, in most trigonometric problems the solutions are simplified, the functions being found by simple cursor shift without slide manipulation.

This gives the beginner advance training for future work with such types of slide rules as the ARISTO Darmstadt and ARISTO Studio which have a similar system of scales and are the preferred instruments for use in college courses and professional practice.

A reciprocal scale is, of course, also provided on the ARISTO Scholar. It has red numerals and gives the skilful slide rule user the means of short cuts to the answer in ordinary and continued multiplication, as well as in combined multiplication and division involving numerous factors.

The less frequently used scales L, K, S, ST and T are printed on yellow background to set them clearly apart from the others. This divides the scales up into two distinctive categories, renders a clearer overall view of their interrelation and makes it easier for the pupil to follow the lecturer's demonstration.

The frameless crystal clear ARISTOPAL cursor gives unbroken visual access to all parts of the scales. It is held in grooves, permanently adjusted and secured against loss, yet can be easily detached for cleaning. Two short hairlines are provided for the direct solution of circular area problems. There is also a new mark for conversions between kW and HP.

### Scale Arrangement, top to bottom:

#### Front:

L	log x	Mantissas of decadal logarithms
K	$x^3$	Cubes and Cube Roots
A	$x^2$	Squares and Square Roots, on body and slide, respectively
B	$x^2$	
CI	$\frac{1}{x}$	Reciprocal Scale, used in conjunction with D to speed up multiplication
C	x	Fundamental Scales on body and slide, for multiplication and division. They also interact with all other scales
D	x	
S	$\sin$	Sines and Cosines
ST	$\sin$ arc	For Sines and Tangents of small angles, for Cosines and Cotangents of large angles, divided in radian measure. Also for conversions between degrees and radians.
T	$\tan$	Tangents and Cotangents

Labeled to degrees with decimal subdivisions

#### Back:

Inch and Millimeter Scale for measuring and drafting

**0903 ARISTO-SCHOLAR** 10" (25 cm) Graduation · With Case and Instructions

**3/100 ARISTO-SCHOLAR** Demonstration Model of Wood · 40" (100 cm) Graduation

**3/150 ARISTO-SCHOLAR** Demonstration Model of Wood · 60" (150 cm) Graduation

## ARISTO SCHOOL COMMERCE 0905

The Slide Rule for Business Colleges and Commercial Schools

The slide rule, formerly the domain of technicians and scientists, is now increasingly used in business offices. For business colleges and self-teaching the ARISTO School Commerce is now available. It has scales for multiplication, division, problems with constant factors, percentages, proportion, foreign exchange and interest calculations in exceptionally practical coordination.

# ARISTO SMALL SIZE THEODOLITE

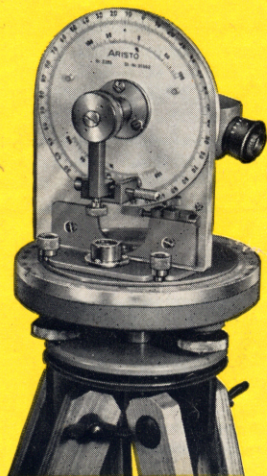
## 2206 ARISTO SMALL SIZE THEODOLITE with Tripod T VII H and Container

An ideal instrument for classes in mathematics and practical exercises in vocational training schools and higher institutes of education.

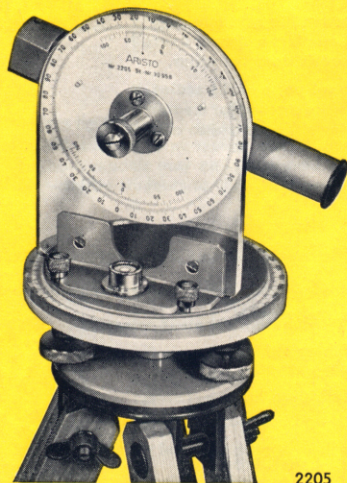
The telescope is sealed against dust and moisture, can be plunged in both directions and has stadia hairlines for measuring distances. Estimative rod readings to 1 mm for target distances up to 80 m; on-line readings to 1 cm up to 160 m. With telescope level — for simple differential leveling jobs. With the detachable standard remounted excentrically, steep sights up to 90° or 100° can be taken.

Both circles have slow motion controls and reading verniers. The vertical circle has a separate scale for gradients in percent from 0% to 100% of elevation or depression.

The base plate of the instrument is threaded to fit any  $\frac{3}{8}$ " camera tripod. Better stability is ensured with the T VII H type of tripod which also has a shifting-head with a centering scope 1" in diameter.



2206



2205

# ARISTO DIOPTR THEODOLITE

## 2205 ARISTO DIOPTR THEODOLITE with Tripod VII L and Container

A simple instrument without lenses, chiefly intended for demonstrating the principles of surveying in mathematical classes. The sighting device consists of a tube resembling a telescope and contains a peep sight and pointer. Supplied with filter for solar observations.

In other respects the instrument is similar to 2206 but without slow motion controls to the circles and without telescope level unless ordered (No. 2337).

Tripods VII L and T VII H fit this instrument.

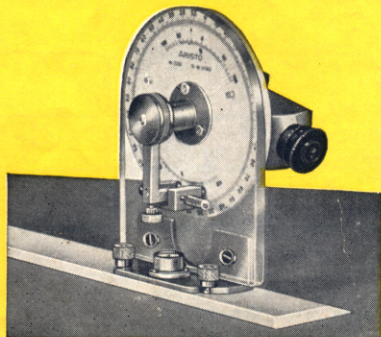
## ARISTO SMALL SIZE PLANE TABLE EQUIPMENT

The standards of the instruments 2205 and 2206 can be dismounted from the base by loosening two knurled nuts and then be similarly attached to the alidade blade 2339 for plane table surveying. For greater stability of plane table 2338 substitute tripod N II H for T VII H.

For further information about these two levels apply for List G 57 E.

Illustrations and descriptions in this catalogue are not binding in every detail.

ARISTO-Products are distributed by:



2206 with 2339